

GRAPHICS DEVICE CLUSTERING WITH PCI-EXPRESS

ABSTRACT OF THE DISCLOSURE

A bridge associated with a broadcast aperture facilitates the transfer of rendering commands and data between a processor and multiple graphics devices. The bridge receives data written by the processor to the broadcast aperture and forwards it to multiple graphics devices, eliminating the need for the processor to perform duplicative(?) write operations. During system initialization, a broadcast aperture is allocated to the bridge in address space based on an aperture size value set using a system configuration utility and stored in system configuration memory. A graphics driver activates the broadcast aperture by sending unicast aperture parameters associated with the multiple graphics devices to the bridge via a bridge driver. Upon activating the broadcast aperture, multiple graphics devices can be operated in parallel to improve rendering performance. Parallel rendering techniques include split-frame, alternate frame, and combined split- and alternate frame rendering.

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